

REMARKS/ARGUMENTS

Entry of this amendment and reconsideration of the present application, as amended, are respectfully requested.

Claims 1-19 and new claims 20-23 are pending in this application.

Claims 1, 4, 5, 8-10, 14, 15, 18 and 19 are amended herein. Unless an argument is made below relating to a particular change to one of the claims to overcome a prior art rejection, these changes to the claims do not relate to patentability. The changes to the claims do not raise new issues and therefore this amendment should be entered.

Claim Rejections – 35 U.S.C. §102

Claims 1-19 are rejected under 35 U.S.C. §102(e) as being anticipated by RE 38,400 to Kowall et al. The Examiner states that Kowall et al. discloses a power operated liftgate of a vehicle 10 enabling the liftgate 14 to be moved from a closed position to a plurality of open positions, a motor 28 coupled to the liftgate 14 and arranged to move the tailgate from the closed position to open positions, detecting means 108 for detecting resistance to opening movement of the door, and a processor 102 coupled to the detecting means 108 and the motor 28 for receiving the detected resistance to the opening movement of the liftgate 14 and directing the motor 28 to stop the opening movement of the liftgate 14 when the detected resistance is above a threshold.

The Examiner's rejection is respectfully traversed on the grounds that Kowall et al. does not disclose apparatus and methods including all of the features of independent claims 1, 5, 9, 14, 18 and 19.

Claim 1 and 5

Claim 1 is directed to a vehicle including a door mounted in a door frame and arranged to move in a lateral direction alongside the door frame and an infinite door check mechanism for enabling the door to be moved from a closed position in the door frame to any one of a plurality of different laterally open positions in which the space between a lateral edge of the door and an edge of the door frame against which the lateral edge of the door is positioned when the door is situated in the door frame is varied.

As shown in Fig. 24, the door 30 is positioned in the door frame 32 and to open the door 32, the door 30 inherently is first moved outward and then in the direction of arrow A, i.e., laterally alongside the door frame 32. The door 32 can thus be the motorized side doors of a minivan. A motor 34 is coupled to the door 30 and moves the door 30 from the closed position to any of the open positions. However, a

sensor 36, 40 is provided to detect resistance to opening movement of the door and a processor 38 directs the motor 34 to stop the opening movement of the door when the detected resistance is above a threshold.

Claim 5 is directed to a method for enabling a door to be opened to any one of a plurality of different positions and includes similar features as those set forth in claim 1.

Kowall et al. does not disclose a door frame, a door mounted therein and which moves in a lateral direction alongside the door frame and an infinite door check mechanism which enables the door to move to a plurality of different laterally open positions in which the space between a lateral edge of the door and an edge of the door frame against which the lateral edge of the door is positioned when the door is situated in the door frame is varied as set forth in claims 1 and 5.

In contrast to the claimed embodiments of the invention, Kowall et al. relates to a tailgate 14 which opens about hinges 16 to swing about a horizontal axis with respect to a large and substantially vertical opening 18 in the rear of the body 12 of the vehicle 10. Thus, the door, i.e., tailgate 14, pivots about an axis and does not have any lateral movement alongside the rear of the body 12. Therefore, Kowall et al. cannot disclose an infinite door check mechanism enabling a door to move to different laterally open positions.

Moreover, the position and operation of a tailgate of a vehicle as in Kowall et al. is significantly different than the position and operation of a laterally movable door of a vehicle, such as the side door of a minivan, as in the invention. One skilled in the art would not be motivated to apply teachings of a tailgate to a laterally movable side door in view of the differences in position and operation.

It is therefore respectfully submitted that Kowall et al. does not disclose, teach or suggest a vehicle with an infinite door check mechanism and method for enabling a door to open to different positions as set forth in claims 1 and 5, respectively.

Claims 9 and 14

Claim 9 is directed to a method for controlling a motorized door of a vehicle to allow for non-motorized operation in which a motor is coupled to the door, the torque on the motor or force or torque exerted on the door is monitored during an opening and closing movement of the door and the motor is de-coupled from the door when the torque or force is above a threshold such that the motor is disengaged from the door and the door is movable without causing damage to the motor.

Claim 14 is directed to an apparatus for controlling a motorized door of a vehicle to allow for non-motorized operation and includes similar features as those set forth in claim 9.

As described in the specification at page 34, lines 8-29, one of the problems of motorized doors is that the motors tend to be damaged if the door is manually opened or closed with force. One reason is

because the motor is designed to be continuously in engagement with the door so that when a person applies force to the door, the force is transmitted to the motor and damages the motor.

To avoid such damage, yet enable manual operation of motorized doors, these embodiments of the invention are designed to “de-couple” the motor from the door to “disengage” the motor from the door and still allow the door to move freely. De-coupling or disengagement means to remove from being interlocked, linked or joined, with the purpose of such de-coupling or disengagement being to prevent the manually applied force to the door from being transmitted to the motor (see the specification at page 34, lines 24-27). The manually applied force is detected via monitoring of the torque on the motor or torque or force on the door, and once detected, causes the de-coupling of the motor from the door. Once the manually applied force is removed, e.g., the velocity of the door is determined to be zero, the motor is then re-coupled and engaged with the door to enable subsequent motorized operation of the door (as set forth in claim 10).

Kowall et al. does not disclose de-coupling the motor from the door when the door is manually operated, as detected via monitoring of the torque on the motor or torque or force on the door, to prevent damage to the motor which moves the door while enabling continued movement of the door. In Kowall et al., the motor 28 moves the tailgate 14 and stops such movement when an obstruction detection circuit 108 detects an obstruction in the opening path of the tailgate 14. That is, a microprocessor 102 shuts off the motor 28 whenever an obstruction condition is detected and will not restart the motor 28 until a switch 116 is activated (see col. 8, lines 40-44). Shutting off the motor 28 prevents any movement of the tailgate 14.

The essence of the obstruction detection circuit 108 is therefore to prevent any movement of the tailgate 14 whenever an obstruction is detected. In light of this aspect, Kowall et al. cannot disclose, teach or suggest de-coupling the motor from the door such that the motor is disengaged from the door and the door is movable as set forth in claims 9 and 14. Rather, once the motor 28 is shut off, resulting from the detection of an obstruction, further movement of the door is expressly not desired.

It is therefore respectfully submitted that Kowall et al. does not disclose, teach or suggest a method and apparatus for controlling a motorized door of a vehicle to allow for non-motorized operation as set forth in claims 9 and 14, respectively.

Claims 18 and 19

Claim 18 is directed to a method for controlling opening and closing of a vehicle door including the steps of detecting the presence of an individual authorized to open the door and enter the vehicle, generating a signal upon the detection of the presence of an authorized individual or an object possessed

by the authorized individual and actuating a motor upon receipt of the signal to open or close the door. The detection of the presence of an authorized individual is made by arranging a sensor on the vehicle to cause a radio frequency identification device (RFID) to emit a signal back to the sensor with the signal emission being indicative of the presence of the authorized individual since only the authorized individual would possess the RFID.

Claim 19 is directed to an apparatus for controlling opening and closing of a vehicle door and includes similar features as those set forth in claim 18.

In the embodiments of the invention set forth in claims 18 and 19, an RFID sensor is used as described in the specification at page 35, lines 2-4. As known to those skilled in the RFID art, an RFID sensor is a sensor with a unique identification code which responds to a transmission by emitting its unique code. In these embodiments of the invention, the detection of the unique code, caused by the carrying of the RFID sensor by the individual authorized to operate the vehicle, causes the door of the vehicle to open.

Kowall et al. describes the use of a remote entry receiver 104 which generates an opening or closing signal to open or close the door of the vehicle. Remote entry receiver 104 can be a conventional receiver that responds to wireless transmission from a conventional remote entry key fob (see col. 8, lines 58-67).

In contrast to the invention, Kowall et al. does not disclose a sensor arranged on the vehicle to cause a radio frequency identification device (RFID) to emit a signal back to the sensor with the signal emission being indicative of the presence of the authorized individual, the "cause" of the RFID emission being the transmission by the sensor. Rather, Kowall et al. discloses that the remote entry receiver on the vehicle only responds to the wireless transmission and does not generate any transmission which causes the response to be sent thereto.

It is therefore respectfully submitted that Kowall et al. does not disclose, teach or suggest a method and apparatus for controlling opening and closing of a vehicle door as set forth in claims 18 and 19, respectively.

In view of the arguments presented above, it is respectfully submitted that the Examiner's rejection of claims 1-19 as being anticipated by Kowall et al. has been overcome and should be removed and that the present application is now in condition for allowance.

New Claims

Claims 20-23 are presented. Three additional claims in excess of twenty are added. The extra filing fee of \$27, applicant qualifying for small entity status, should be charged to Deposit Account No. 50-0266. Two additional independent claims in excess of three are added. The extra filing fee of \$86, applicant qualifying for small entity status, should be charged to Deposit Account No. 50-0266.

Claims 20 and 21 are directed to the feature of the resistance to the opening movement of the door being detected during movement of the door in the lateral direction.

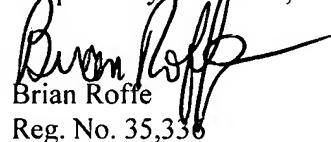
Claims 22 and 23 are directed to the embodiments similar to those set forth in original claims 4 and 8 and recite a pressure sensor arranged on the door and having a pressure sensitive surface oriented in the direction of opening of the door such that by touching the pressure sensitive surface, resistance is applied to the door causing the opening movement of the door to be stopped. Kowall et al. does not disclose any pressure sensor arranged on the door and having a pressure sensitive surface. Rather, Kowall et al. relies on monitoring of the motor 28 or monitoring rate of change of the position of the tailgate 14 and does not disclose the placement of any sensor on the door and in a position in which it can be contacted by an obstruction.

If the Examiner should determine that minor changes to the claims to obviate informalities are necessary to place the application in condition for allowance, the Examiner is respectfully requested to contact the undersigned to discuss the same.

An early and favorable action on the merits upon entry and consideration of this amendment is earnestly solicited.

FOR THE APPLICANT

Respectfully submitted,


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